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PATENT APPLICATION

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OCT 25 2004
U S PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Docket No: Q61364

Hisato YOSHII

Appln. No.: 09/688,863

Group Art Unit: 3724

Confirmation No.: 2476

Examiner: Charles Goodman

Filed: October 17, 2000

For: ROTARY CUTTING MACHINE FOR CORRUGATED CARDBOARD PLATE

SUBMISSION OF APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. A check for the statutory fee of \$340.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,



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WASHINGTON OFFICE
23373
CUSTOMER NUMBER

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

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Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

I. REAL PARTY IN INTEREST

The real party in interest is Daizen Kabushiki Kaisha, the assignee of the present application. The assignment was recorded on October 17, 2000, at Reel 011237; Frame 0492.

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37
U.S. Appln. No.: 09/688,863

II. RELATED APPEALS AND INTERFERENCES

Appellant's legal representative, and the assignee of the application are not aware of any other pending appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the instant appeal.

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
U.S. Appln. No.: 09/688,863

III. STATUS OF CLAIMS

As initially filed, the application included claims 1-6. During the course of the prosecution, Appellants added new claims and cancelled pending claims such that claims currently pending in the application are claims 2, 4-6, 9-12 and 14-19. These claims were finally rejected in the Office Action dated March 3, 2004, and are being appealed herein. All of the claims pending in the present application are set forth in their entirety in Appendix A, attached to this Brief on Appeal.

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

U.S. Appln. No.: 09/688,863

IV. STATUS OF AMENDMENTS

There are no outstanding, non-entered amendments of the claims.

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
U.S. Appln. No.: 09/688,863

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The concise description of the claimed subject matter of the present invention is set forth below, with regard to each of the respective independent claims 6, 11 and 12. Each of the following discussions include reference to various portions of the present application to aid in the understanding of the invention. However, such reference, unless otherwise indicated, is intended to point out the described exemplary embodiment; it is not intended to limit the scope of the claims to only the express embodiment cited below.

Independent claim 6 is directed to a cutting machine A for cutting a flat cardboard plate 2. Page 5, lines 20-24. The cutting machine includes a first rotary cutter 7 for cutting an upper portion of the cardboard plate and a second rotary cutter 8 which is rotatable in a direction counter to a direction of rotation of the first rotary cutter 7 for cutting a lower portion of the cardboard plate. Page 6, lines 16-26. The cutting machine further includes a drive mechanism 10 for driving the first and second rotary cutters 7 and 8 relative to the flat cardboard plate along a single line b. Page 5, line 27 - page 6, line 2; page 7, lines 1-6. According to the invention, a support table 5 is provided for supporting the flat cardboard plate from below, as shown in Figures 1 and 2 of the application. Page 6, lines 16-21. In addition, a level adjusting mechanism 37 is provided for adjusting the relative position between the support table 5 and the first and second rotary cutters 7, 8 in the vertical direction according to the thickness of the flat cardboard plate to be cut and for setting a boundary between respective depths of cutting by the first and second rotary cutters to a value substantially equal to one half of the thickness of the flat cardboard plate. Page 13, lines 18-25. Finally, according to the invention recited in claim 6, the

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
U.S. Appln. No.: 09/688,863

cutting machine includes a retaining mechanism 33 for pressing against a portion of the flat cardboard plate on the trailing side of the cutting line with respect to the direction of feed of the plate against the support table. Page 11, lines 4-14. By virtue of the present arrangement, including the pair of rotary cutters and the level adjusting mechanism, it has been discovered that burring of the cardboard plate is substantially prevented resulting in a near perfect cut. Page 12, lines 19-27. It is noted that although the scope of independent claims 11 and 12 varies slightly from independent claim 6, these claims are directed to the same basic invention discussed above with respect to claim 6. More specifically, each of these claims is directed to a cutting machine including the first and second rotary cutters 7, 8, the drive mechanism 10, the support table 5, and the level adjusting mechanism 37.

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
U.S. Appln. No.: 09/688,863

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 2, 4-6, 9-12 and 14-19 stand rejected under § 103 as being unpatentable over Witjes, (U.S. Patent No. 6,148,706) in view of Neal (U.S. Patent No. 1,435,252).

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
U.S. Appln. No.: 09/688,863

VII. ARGUMENTS

Appellants arguments for patentability are set forth in detail below. Because Appellants note that the rejected claims stand or fall together with claim 1, Appellants will focus on this claim, unless otherwise indicated.

The Examiner relies on Witjes for disclosing the entire claimed invention with the exception of the claimed level adjusting mechanism discussed above. To compensate for this deficiency, the Examiner contends that “Neal teaches a support table (D) having a level adjusting mechanism (e.g., d, d¹) that adjusts relative position between the support table and the rotary cutters (C, C) in the vertical direction for the purpose of maintaining a desired depth of cut for the rotary cutters depending the thickness of the material being cut.” Final Office Action, ¶3. Based on this teaching, the Examiner contends that it would have been obvious to a person of ordinary skill in the art at the time of the instant invention to “provide the device of Witjes with the level adjusting mechanism as taught and suggested by Neal for the reasons states *supra*”. Final Office Action, ¶3.

Appellants respectfully disagree with the Examiner’s position. First, it is clear that the Examiner is contending that the guide bars D in Neal correspond to the claimed support table. The Examiner contends that these guide bars are adjustable in a direction which is perpendicular to the axes of the saw. The Examiner states “In the orientation shown [in Figure 1], they support the workpiece from below.” *See*, page 3 of Office Action. This is incorrect.

The Examiner fails to understand that Figure 1 is a plan view -- i.e., looking down on the sawing machine. Thus, the guide bars are disposed on opposite horizontal sides of the

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
U.S. Appln. No.: 09/688,863

workpiece. As shown in Figure 2, which is a side view, the workpiece is supported by the bed plate E. Thus, the Examiner's assertion that the workpiece in Neal is supported by the guide bars D is factually incorrect.

Apparently, recognizing that Appellant is correct on this point, the Examiner next states that “[e]ven if this is not the case, at the very least, Witjes already includes a support table supporting the workpiece from below in the same orientation as shown in Fig. 1 of Neal, and Neal has been applied to teach the obviousness of the level adjusting mechanism. Appellant's arguments to the contrary is tangential to the issue at bar.” In response, Appellant submits that the fatal problem with the Examiner's rejection is his assertion that Neal discloses a level adjusting mechanism for adjusting the relative position between the support table, upon which the workpiece rests, and the rotary cutters. Although the guide plates D are adjustable, they are in no way analogous to a support table since they do not support the workpiece in a vertical direction. Moreover, the reference explicitly discloses that these guide bars are adjustable to receive stock of different *widths*. See, page 1, lines 61-70. In other words, there is no contemplation in Neal of adjusting the guide bars so as to adjust the center line of the workpiece with respect to the cutter; the center-line between the bars remains fixed, but the bars are moveable to receive stock of different widths. Accordingly, the Examiner's rejection is unsupported because Neal does not teach or suggest a level adjusting mechanism for adjusting the relative position between a support table and the first and second rotary cutters in the vertical direction according to a thickness of the workpiece, as the independent claims require.

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
U.S. Appln. No.: 09/688,863

Further, Appellant submits that the Examiner has not identified a proper motivation or suggestion in the prior art for combining the teachings of Witjes and Neal. In Witjes, a pair of rotating knives 4 and 5 are positioned so as to be able to cut through a plate material 20 which is placed on a table 2. To compensate for plate materials having different thickness, Witjes teaches that at least one of the rotating knives is able to be adjusted in height, thereby enabling the knives 4 and 5 to cut plate materials having different thickness. In particular, at col. 2, lines 24-28, Witjes sets forth the following:

To be able to shorten very thick plate material, a special version of the device according to the invention is characterized in that at least one of both rotating knives can be adjusted in a height in a direction transverse to the place of entry.

As such, Witjes solves the problem of cutting materials having different thickness by providing knives which can be adjusted in height. Therefore, given the overall teaching of Witjes, it would be antithetical to modify this reference to provide a table which could be adjusted in order to accommodate materials having different thickness. Such a modification would destroy one of Witjes' particular contributions to the art; namely, compensating for plate materials having different thickness by providing adjustable knives.

Thus, Appellant respectfully submits that the modifications to Witjes advocated by the Examiner, even if Neal were considered, would not have been apparent to those skilled in the art. The Examiner's rationale for combining and modifying the references; namely, to perform adjustment to compensate for materials having different thickness, is simply not persuasive. Witjes, without modification, already adequately addresses this need.

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
U.S. Appln. No.: 09/688,863

In other words, one of ordinary skill in the art would see no reason to provide an adjusting mechanism for the table of Witjes in order to compensate for materials having different thickness because Witjes already provides the necessary adjusting mechanism.

Based on the foregoing, Appellant submits that a prima facie case of obviousness has not been established and, accordingly, respectfully requests that the Examiner reconsider and withdraw the rejection of claim 6. Claims 2, 3, 5 and 18 depend from claim 6 and therefore incorporate all of the features thereof. Accordingly, Appellant submits that these claims are patentable at least by virtue of their dependency.

Independent claims 11 and 12 recite similar features to those discussed above with respect to claim 6. For example, independent claims 11 and 12 recite the feature of a level adjusting mechanism operable to adjust a relative position between the support table and the first and second rotary cutters in a vertical direction according to a thickness of the article to be cut, wherein the adjusting mechanism is further operable to set a boundary between respective depth of cutting by the first and second rotary cutters to a value substantially equal to one half of a thickness of the article. As discussed above, Appellant submits that the combination of Witjes and Neal fails to teach or suggest such a feature. Therefore, Appellant respectfully requests that the Examiner reconsider and withdraw the rejection of these claims.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
U.S. Appln. No.: 09/688,863

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Respectfully submitted,



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CLAIMS APPENDIX A

CLAIMS 2, 4-6, 9-12 and 14-19 ON APPEAL:

2. The cutting machine for cutting the flat cardboard plate as claimed in Claim 6, wherein each of the first and second rotary cutters rotates in such a direction as to permit a leading portion of the respective rotary cutter, with respect to a direction of movement relative to the flat cardboard plate, to plunge into the flat cardboard plate.

4. The cutting machine for cutting the flat cardboard plate as claimed in Claim 6, wherein the level adjusting mechanism is operable to selectively elevate and lower the support table.

5. The cutting machine for cutting the flat cardboard plate as claimed in Claim 6, further comprising a support structure for rotatably supporting the first and second rotary cutters and wherein the drive mechanism is operable to move the support structure relative to the flat cardboard plate.

6. A cutting machine for cutting a flat cardboard plate having a cardboard, said cutting machine comprising:
a first rotary cutter for cutting an upper portion of the flat cardboard plate;

Appendix A
Brief on Appeal
U.S. Patent application Serial No. 09/688,863

a second rotary cutter rotatable in a direction counter to a direction of rotation of the first rotary cutter for cutting a lower portion of the flat cardboard plate;

a drive mechanism for driving the first and second rotary cutters relative to the flat cardboard plate along a single cutting line to cut the flat cardboard plate along such cutting line;

a support table for supporting from below the flat cardboard plate, and a level adjusting mechanism for adjusting a relative position between the support table and the first and second rotary cutters in a direction up and down according to a thickness of the flat cardboard plate to be cut and for setting a boundary between respective depth of cutting by the first and second rotary cutters to a value substantially equal to one half of a thickness of the flat cardboard plate; and

a retaining mechanism for pressing a portion of the flat cardboard plate on a trailing side of the cutting line with respect to a direction of feed of the flat cardboard plate against the support table by moving a retainer bar only in a vertical direction to retain the flat cardboard plate immovable during a cutting operation.

9. The cutting machine as claimed in Claim 11, wherein each of the first and second rotary cutters rotates in such a direction as to permit a leading portion of the respective rotary cutter, with respect to a direction of movement relative to the article, to plunge into the article.

Appendix A
Brief on Appeal
U.S. Patent application Serial No. 09/688,863

10. (Previously Presented) The cutting machine as claimed in Claim 11, wherein the level adjusting mechanism is operable to selectively elevate and lower the support table.

11. A cutting machine comprising:

a first rotary cutter operable to cut an upper portion of an article;

a second rotary cutter which rotates in a direction counter to a direction of rotation of the first rotary cutter and operable to cut a lower portion of the article;

a drive mechanism operable to drive the first and second rotary cutters relative to the article along a single cutting line to cut the article along such cutting line;

a support table operable to support from below the article, and a level adjusting mechanism operable to adjust a relative position between the support table and the first and second rotary cutters in a vertical direction according to a thickness of the article to be cut; and

a retaining mechanism operable to press a portion of the article on a trailing side of the cutting line with respect to a direction of feed of the article against the support table to retain the article immovable during a cutting operation,

wherein the adjusting mechanism is further operable to set a boundary between respective depth of cutting by the first and second rotary cutters to a value substantially equal to one half of a thickness of the article.

Appendix A
Brief on Appeal
U.S. Patent application Serial No. 09/688,863

12. A cutting machine comprising:

a first rotary cutter operable to cut an upper portion of an article;

a second rotary cutter which rotates in a direction counter to a direction of rotation of the first rotary cutter and operable to cut a lower portion of the article;

a drive mechanism operable to drive the first and second rotary cutters in a back and forth motion along a single cutting line; and

a support table operable to support from below the article, and a level adjusting mechanism operable to adjust a relative position between the support table and the first and second rotary cutters in a vertical direction according to a thickness of the article to be cut,

wherein the adjusting mechanism is further operable to set a boundary between respective depth of cutting by the first and second rotary cutters to a value substantially equal to one half of a thickness of the article.

14. The cutting machine as claimed in Claim 12, wherein each of the first and second rotary cutters rotates in such a direction as to permit a leading portion of the respective rotary cutter, with respect to a direction of movement relative to the article, to plunge into the article.

15. The cutting machine as claimed in Claim 12, wherein the level adjusting mechanism is operable to selectively elevate and lower the support table.

Appendix A
Brief on Appeal
U.S. Patent application Serial No. 09/688,863

16. The cutting machine as claimed in Claim 12, further comprising a retaining mechanism operable to press a portion of the article on a trailing side of the cutting line with respect to a direction of feed of the article against the support table to retain the article immovable during a cutting operation.

17. The cutting machine as claimed in claim 12, wherein the article is maintained in a stationary position when the drive mechanism drives the first and second rotary cutters in the lateral direction relative to the article along the single cutting line.

18. The cutting machine as claimed in claim 6, wherein the flat cardboard plate is maintained in a stationary position when the drive mechanism drives the first and second rotary cutters relative to the flat cardboard plate along the single cutting line.

19. The cutting machine as claimed in claim 11, wherein the article is maintained in a stationary position when the drive mechanism drives the first and second rotary cutters relative to the article along the single cutting line.